

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants : Howard J. Worman and Naoto Mamiya  
Serial No. : 09/407,432  
Filed : September 29, 1999  
For : A HCV CORE PROTEIN BINDING AGENT FOR TREATMENT  
OF HEPATITIS C VIRUS INFECTION

1185 Avenue of the Americas  
New York, New York 10036  
January 19, 2001

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

**RESPONSE TO  
December 19, 2000 NOTICE TO COMPLY WITH  
REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING  
NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES**

This is a response to the Communication issued December 19, 2000 in connection with the above-identified application. A response to the December 19, 2000 Communication is due by January 19, 2001 and this Amendment is being timely filed.

In response to the December 19, 2000 Notice, a copy of which is attached as **Exhibit A**, applicants submit a paper copy and computer readable copy of the nucleotide and/or amino acid sequences disclosed in the application in order to fulfill the requirements of 37 C.F.R. §1.821 and 1.825 in connection with this application. Applicants submit herewith sixteen (16) pages of Sequence Listing in compliance with the requirements of §1.821 and 1.825 attached as **Exhibit B**.

Applicants also submit herewith a formatted Sequence Listing in

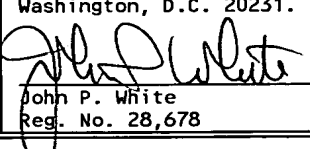
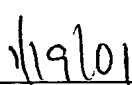
Applicants: Worman et al.  
Serial No.: 09/407,432  
Filed : September 29, 1999  
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computer readable form which complies with the requirements of 37 C.F.R. §1.824. In addition, applicants submit a Statement in Accordance with 37 C.F.R. §1.821(f), attached as **Exhibit C**, certifying that the computer readable form containing the nucleic acid and/or amino acid sequences as required by 37 C.F.R. §1.821(e) contains the same information which is submitted as the "Sequence Listing".

If a telephone interview would be of assistance in advancing prosecution of the subject application, applicants' undersigned attorney invites the Examiner to telephone him at the number provided below.

No fee is deemed necessary in connection with the filing of this Amendment. However, if any fee is required, authorization is hereby given to charge the amount of any such fee to Deposit Account No. 03-3125.

Respectfully submitted,

I hereby certify that this correspondence is being deposited this date with the U.S. Postal Service with sufficient postage as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231.	
 John P. White Reg. No. 28,678	 Date

  
John P. White  
Registration No. 28,678  
Attorney for Applicant  
Cooper & Dunham LLP  
1185 Avenue of the Americas  
New York, New York 10036  
(212) 278-0400

**NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES**

Applicant must file the items indicated below within the time period set the Office action to which the Notice is attached to avoid abandonment under 35 U.S.C. § 133 (extensions of time may be obtained under the provisions of 37 CFR 1.136(a)).

The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 C.F.R. 1.821 - 1.825 for the following reason(s):

- ☒ 1. This application clearly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. Applicant's attention is directed to these regulations, published at 1114 OG 29, May 15, 1990 and at 55 FR 18230, May 1, 1990.
- ☐ 2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 C.F.R. 1.821(c).
- ☐ 3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 C.F.R. 1.821(e).
- ☐ 4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing."
- ☐ 5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A Substitute computer readable form must be submitted as required by 37 C.F.R. 1.825(d).
- ☐ 6. The paper copy of the "Sequence Listing" is not the same as the computer readable form of the "Sequence Listing" as required by 37 C.F.R. 1.821(e).
- ☐ 7. Other: \_\_\_\_\_

**Applicant Must Provide:**

- ☒ An initial or substitute computer readable form (CRF) copy of the "Sequence Listing".
- ☒ An initial or substitute paper copy of the "Sequence Listing", as well as an amendment directing its entry into the specification.
- ☒ A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d).

For questions regarding compliance to these requirements, please contact:

For Rules Interpretation, call (703) 308-4216

For CRF Submission Help, call (703) 308-4212

PatentIn Software Program Support (SIRA)

Technical Assistance.....703-287-0200

To Purchase PatentIn Software.....703-306-2600

**PLEASE RETURN A COPY OF THIS NOTICE WITH YOUR RESPONSE**

# SEQUENCE LISTING

<110> Worman, Howard J.  
Mamiya, Naoto

<120> HCV CORE PROTEIN BINDING AGENTS FOR TREATMENT OF  
HEPATITIS C VIRUS INFECTION

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Ile Val Glu Asp Cys Asp Met Thr Pro Val Gly Glu Lys Ile Gly Leu  
 995 1000 1005

Asp Phe Cys Lys Tyr Leu Val Leu Asp Glu Ala Asp Arg Met Leu Asp  
 1010 1015 1020

Met Gly Phe Glu Pro Gln Ile Arg Arg Ile Val Glu Gln Asp Thr Met  
 1025 1030 1035 1040

Pro Pro Lys Gly Val Arg His Thr Met Met Phe Ser Ala Thr Phe Pro  
 1045 1050 1055

Lys Glu Ile Gln Met Leu Ile Gly Leu Asp Phe Cys Lys Tyr Leu Val  
 1060 1065 1070

Leu Asp Glu Ala Asp Arg Met Leu Asp Met Gly Phe Glu Pro Gln Ile  
 1075 1080 1085

Arg Arg Ile Val Glu Gln Asp Thr Met Pro Pro Lys Gly Val Arg His  
 1090 1095 1100

Thr Met Met Phe Ser Ala Thr Phe Pro Lys Glu Ile Gln Met Leu Ala  
 1105 1110 1115 1120

Arg Gln Thr Leu Met Phe Ser Ala Thr Phe Pro Ala Asp Ile Gln His  
 1125 1130 1135

Leu Ala Arg Asp Phe Leu Ser Asp Tyr Ile Phe Leu Ser Val Gly Arg  
 1140 1145 1150

Val Gly Ser Thr Ser Glu Asn Ile Thr Gln Lys Val Leu Tyr Val Glu  
 1155 1160 1165

Asn Gln Asp Lys Lys Ser Ala Leu Leu Asp Ala Arg Asp Phe Leu Asp  
 1170 1175 1180

Glu Tyr Ile Phe Leu Ala Val Gly Arg Val Gly Ser Thr Ser Glu Asn  
 1185 1190 1195 1200

Ile Thr Gln Lys Val Val Trp Val Glu Glu Ser Asp Lys Arg Ser Phe  
 1205 1210 1215

Leu Leu Asp Leu Leu Asn Ala Thr Gly Lys Asp Ser Leu Thr Leu Val  
 1220 1225 1230

Phe Val Glu Thr Arg Asp Phe Leu Asp Glu Tyr Ile Phe Leu Ala Val  
 1235 1240 1245

Gly Arg Val Gly Ser Thr Ser Glu Asn Ile Thr Gln Lys Val Val Trp  
 1250 1255 1260

Val Glu Glu Ala Asp Lys Arg Ser Phe Leu Leu Asp Leu Leu Asn Ala  
 1265 1270 1275 1280

Thr Gly Lys Asp Ser Leu Ile Leu Val Phe Val Glu Thr Lys Leu Leu  
 1285 1290 1295

Ser Ala Ser Thr Asp Gly Leu Thr Leu Ile Phe Val Glu Thr Lys Arg  
 1300 1305 1310



Met Ala Asp Gln Leu Thr Asp Phe Leu Ile Met Gln Asn Phe Arg Ala  
 1315 1320 1325

Thr Ala Ile His Gly Asp Arg Thr Gln Ser Glu Arg Glu Arg Ala Leu  
 1330 1335 1340

Ala Ala Phe Arg Ser Gly Ala Ala Lys Lys Gly Ala Asp Ser Leu Glu  
 1345 1350 1355 1360

Asp Phe Leu Tyr His Glu Gly Tyr Ala Cys Thr Ser Ile His Gly Asp  
 1365 1370 1375

Arg Ser Gln Arg Asp Arg Glu Glu Ala Leu His Gln Phe Arg Ser Gly  
 1380 1385 1390

Lys Ser Pro Ile Leu Val Ala Thr Ala Val Ala Ala Arg Gly Leu Asp  
 1395 1400 1405

Ile Ser Lys Gly Ala Asp Ser Leu Glu Asp Phe Leu Tyr His Glu Gly  
 1410 1415 1420

Tyr Ala Cys Thr Ser Ile His Gly Asp Arg Ser Gln Arg Asp Arg Glu  
 1425 1430 1435 1440

Glu Ala Leu His Gln Phe Arg Ser Gly Lys Ser Pro Ile Leu Val Ala  
 1445 1450 1455

Thr Ala Val Ala Ala Arg Gly Leu Asp Ile Ser Asn Thr Leu Leu Val  
 1460 1465 1470

Ala Thr Ala Val Ala Ala Arg Gly Leu Asp Ile Pro Asn Val Thr His  
 1475 1480 1485

Val Ile Asn Tyr Asp Leu Pro Ser Asp Val Asp Asp Tyr Val His Arg  
 1490 1495 1500

Ile Gly Arg Thr Gly Arg Ala Gly Asn Thr Gly Leu Ala Thr Ala Phe  
 1505 1510 1515 1520

Glu Asn Ser Glu Asn Ser Asn Val Lys His Val Ile Asn Phe Asp Leu  
 1525 1530 1535

Pro Ser Asp Ile Glu Glu Tyr Val His Arg Ile Gly Arg Thr Gly Arg  
 1540 1545 1550

Val Gly Asn Leu Gly Leu Ala Thr Ser Phe Phe Asn Glu Arg Asn Ile  
 1555 1560 1565

Asn Ile Thr Lys Asp Leu Leu Asp Leu Leu Val Glu Ala Lys Gln Glu  
 1570 1575 1580

Val Lys His Val Ile Asn Phe Asp Leu Pro Ser Asp Ile Glu Glu Tyr  
 1585 1590 1595 1600

Val His Arg Ile Gly Arg Thr Gly Arg Val Gly Asn Leu Gly Leu Ala  
 1605 1610 1615

Thr Ser Phe Phe Asn Glu Arg Asn Ile Asn Ile Thr Lys Asp Leu Leu  
 1620 1625 1630

Asp Leu Leu Val Glu Ala Lys Gln Glu Val Asn Ile Val Lys Gly Leu  
 1635 1640 1645

His Glu Ile Leu Thr Glu Ala Asn Gln Glu Val Pro Ser Phe Leu Lys  
 1650 1655 1660

Asp Ala Met Met Ser Ala Pro Gly Ser Arg Ser Asn Ser Arg Arg Gly  
 1665 1670 1675 1680

Gly Phe Gly Arg Asn Asn Asn Arg Asp Tyr Arg Lys Ala Gly Gly Ala  
 1685 1690 1695

Ser Ala Gly Gly Val Pro Ser Trp Leu Glu Asn Met Ala Tyr Glu His  
 1700 1705 1710

His Tyr Lys Gly Ser Ser Arg Gly Arg Ser Lys Ser Ser Arg Phe Ser  
 1715 1720 1725

Gly Gly Phe Gly Ala Arg Asp Tyr Arg Gln Ser Ser Gly Ala Ser Ser  
 1730 1735 1740

Ser Ser Phe Ser Ser Ser Arg Ala Ser Ser Ser Arg Ser Gly Pro Ser  
 1745 1750 1755 1760

Trp Leu Glu Asn Met Ala Phe Glu His His Tyr Lys Gly Gly Ser Arg  
 1765 1770 1775

Gly Arg Ser Lys Ser Arg Phe Ser Gly Gly Phe Gly Ala Arg Asp Tyr  
 1780 1785 1790

Arg Gln Ser Ser Gly Ala Ser Ser Ser Ser Phe Ser Ser Gly Arg Ala  
 1795 1800 1805

Ser Asn Ser Arg Ser Gly Gly Gly Trp Gly Ser Ser Arg Ser Arg Asp  
 1810 1815 1820

Asn Ser Phe Arg Gly Gly Ser Gly Trp Gly Ser Asp Ser Lys Ser Ser  
1825 1830 1835 1840

Gly Trp Gly Asn Ser Gly Gly Ser Asn Asn Ser Ser Trp Trp Gly Gly  
1845 1850 1855

Gly His Gly Ser Ser Arg Gly Arg Gly Gly Gly Tyr Gly Gly Phe  
1860 1865 1870

Tyr Asn Ser Asp Gly Tyr Gly Gly Asn Tyr Asn Ser Gln Gly Val Asp  
1875 1880 1885

Trp Trp Gly Asn Ser His Gly Ser Ser Arg Gly Phe Gly Gly Gly Ser  
1890 1895 1900

Tyr Gly Gly Phe Tyr Asn Ser Asp Gly Tyr Gly Gly Asn Tyr Ser Ser  
1905 1910 1915 1920

Gln Gly Val Asp Trp Trp Gly Asn  
1925

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants : Howard J. Worman and Naoto Mamiya  
Serial No. : Not Yet Known  
Filed : September 29, 1999  
For : A HCV CORE PROTEIN BINDING AGENT FOR  
TREATMENT OF HEPATITIS C VIRUS INFECTION

1185 Avenue of the Americas  
New York, New York 10036  
January 19, 2001

Assistant Commissioner for Patents  
Washington, D.C. 20231

**STATEMENT IN ACCORDANCE WITH 37 C.F.R. §1.821(f)**

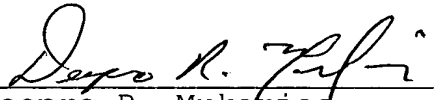
In accordance with 37 C.F.R. §1.821(f), I hereby certify that the computer readable form containing the nucleic acid and/or amino acid sequences required by 37 C.F.R. §1.821(f) and submitted in connection with the above-identified application, has the same information as the paper copy of the Sequence Listing submitted herewith as Exhibit B to the Amendment.

I hereby declare that all statements made herein of my knowledge are true and that all statements made on information and beliefs are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such

Applicants: Worman et al.  
Serial No.: Not Yet Known  
Filed: September 29, 1999  
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false statements may jeopardize the validity of the application  
or any patent issued thereon.

Respectfully submitted,

  
\_\_\_\_\_  
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